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A RAPID METHOD FOR PRODUCING INSECT LABELS

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THIS METHOD REPRESENTS A REFINEMENT of Adams 1963. It produces permanent waterproof labels, requires only commonly available materials, and is compact enough for use in the field, if desired. It has proved most convenient for series of 10 to 400 specimens, where the delay in obtaining offset printed labels is undesirable. The description below gives the impression of complexity, but in use the method is both simple and rapid. Engraving the master label takes only a little longer than writing a single label with crowquill. Anyone capable of lettering neatly by hand should have little difficulty in mastering the technique, but practice is necessary to produce best results. These directions have stemmed from extensive experimentation and should be followed meticulously. The essence of the method involves engraving the master label by hand in a thin layer of plaster-like material, and forming a rubber stamp by pressing kneaded rubber into this master. Because of the low relief and delicacy of the stamp, special printing methods are necessary.

The complete kit consists of: coated engraving plates, coating spreader, stylus, 2 pieces of 60x80 mm plate glass, stamp handle, scissors, waxed paper, thumb tacks, foam-covered printing guide and ink pad, ink roller, strips of label paper, kneaded rubber eraser, tube of ink.

The engraving surface is prepared by coating sheets of Formica® with a mixture consisting of 5 parts dry talc, 1 part white glue, and about 2 parts water, by volume, and having the consistency of heavy cream, thick but runny. A good quality facial or U.S.P. talc is preferable; "baby powder" and "body talc" are too coarse. To minimize bubble formation, add water to wet the talc and mix to break up lumps, before adding the glue.

A spreader (Fig. 1) is made from a 15 cm length of metal bar, about 3 mm thick, with a small piece of plastic sponge cemented to each end to prevent the coating mixture from spreading laterally and with several turns of wire wound around each end to serve as a thickness gauge. The thickness of the layer should approximately equal one fourth the height of the letters used. If the layer is too thick there is a tendency for the centers of closed letters such as e, g, d, etc., to break out; if too thin, insufficient relief results in smudging. For letters 1 mm high, No. 28 gauge wire is preferable, and for 0.7 mm letters, No. 30 is better.

The stylus (Fig. 2) is made from a dissecting needle, cut to an 8 mm length, and sharpened. Hold it vertically when engraving. Lettering is closely spaced, preferably filling the entire area of the label. If blank areas are unavoidable, rule a line or a row of dots through them; otherwise, due to the low relief of the stamp, they will print as smudges. Should a blank space be desired, for later addition of data with pen, raise the area on the engraved master with a little white glue. Finally, a border of fine parallel lines is drawn around the engraved label, with a *minimum* width of 6 mm (Fig. 3). Since this border absorbs most of the shock during printing, the wider it is, the better will be the final results. The border area is an unsightly mess when printed, but is entirely trimmed away from the finished label.

The stamp is made from a Eberhard Faber™ kneaded rubber eraser. A small piece is kneaded until soft, flattened with the fingers, then pressed between two small pieces of plate glass, to form a perfectly smooth sheet about 3 mm thick. A piece of this is then cut to the approximate size of the engraved border, and placed on the engraving.

A stamp handle (Fig. 4) is made from a rectangular block of hardwood, with fine wire screen spread over the 20x35 mm face and tacked to the sides; one or two tacks should also be placed on the face of the block. Wrap the edges of the screen with tape. Place the stamp handle over the piece of kneaded rubber, and press firmly into the engraved label. Do not use excessive pressure or the rubber will creep inward later, resulting in a convex stamp surface. Lift the stamp free, and inspect the printing surface, pressing down the edges beyond the engraved border as necessary to prevent smudging (Fig. 5).

The ink pad (Fig. 7) is made from a piece of thin neoprene foam, or fine-grained plastic sponge, cemented to a board. Suitable material is used in skin divers' wet suits, or as backing of

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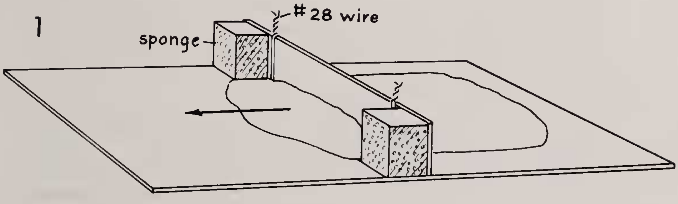

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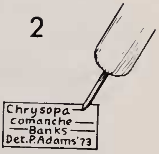

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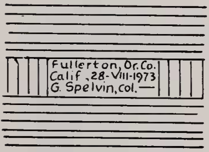

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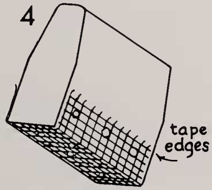

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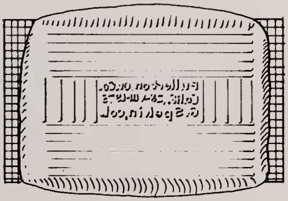

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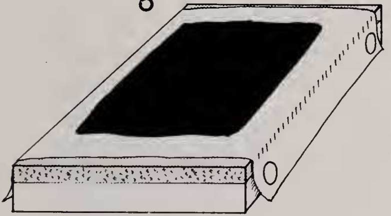

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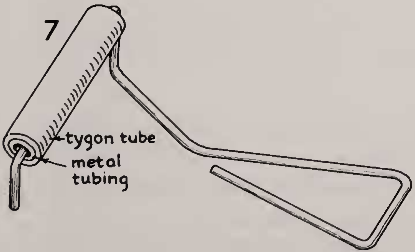

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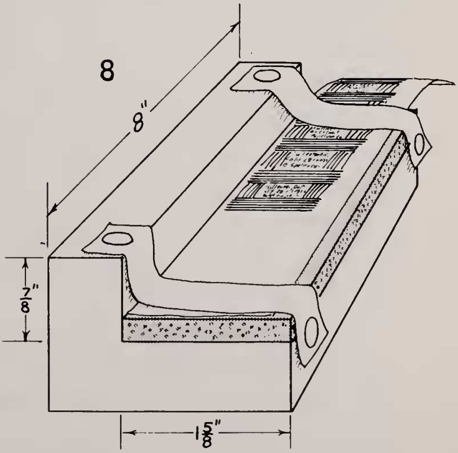

Fig. 1.—Spreading the talc-glue mixture on Formica®.

Fig. 2.—Engraving a label.

Fig. 3.—Complete engraving, with surrounding border.

Fig. 4.—Stamp holder.

Fig. 5.—Stamp ready for printing; excess rubber at edges pressed down as necessary.

Fig. 6.—Stamp pad with wax paper covering.

Fig. 7.—Ink roller.

Fig. 8.—Printing guide.

carpet tiles. Spread a piece of wax paper over the ink pad, and secure with thumbtacks. A small dab of printer's or oil linoleum block printing ink is placed on the wax paper and spread with a small roller (Fig. 6), made from tygon or rubber tubing over a core of metal tubing, and coat-hanger wire. Use little ink, to avoid filling the letters of the stamp.

The paper must have a smooth surface; I prefer Strathmore™ smooth drawing paper, single weight, cut in 1½ inch strips. The paper should be placed on a piece of foam rubber during printing. A printing guide as shown in Figure 8 assists in printing straight rows. Gently ink the stamp, and make a few impressions. Do not press too hard. Usually after about six impressions the stamp flattens out and becomes evenly inked. If necessary, correct the engraved master, wipe the ink from the rubber stamp, knead again, and make another impression. Roll the ink pad frequently to ensure even inking. After about one hundred labels have been produced, the stamp may become so worn that another impression becomes necessary.

Problems. Most of these stem from not appreciating the consequences of the very low relief and delicacy of the stamp; the letters being raised at most a quarter of a millimeter. Open spaces inevitably smudge, so it is necessary to fill the entire area of the label with closely spaced lettering or lines. If the border is too narrow, the edge of the label smudges, and the lettering on the stamp quickly flattens out. Heavy pressure during inking and printing destroys the stamp. This can be avoided by holding the stamp with the thumb and third finger, and pressing gently with the index finger only.

Permanent stamps may be made with latex, silicone rubber, or preferably with quick setting thiokol dental impression rubber. I have not found them convenient; kneaded rubber gives excellent results, and there is no mixing or waiting. Further, with kneaded rubber, it is easy to make corrections in the engraved master as necessary.

REFERENCE CITED

ADAMS, PHILLIP A. 1963. A Rubber Stamp Method for Producing Specimen Labels. *J. Res. Lepidopt.* 2: 225-228.